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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/665,965 | 09/18/2003 | John Tadich | MLP 7222 | 8329 |

321 7590 03/22/2005

SENNIGER POWERS LEAVITT AND ROEDEL
ONE METROPOLITAN SQUARE
16TH FLOOR
ST LOUIS, MO 63102

EXAMINER


SAETHER, FLEMMING

| | |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
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3677

DATE MAILED: 03/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|---|--------------------------------------|-------------------------------------|--|
|  Office Action Summary | Application No. 10/665,965 | Applicant(s) TADICH, JOHN | |
| | Examiner Flemming Saether | Art Unit 3677 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 December 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) is/are withdrawn from consideration.
- 5) ☐ Claim(s) is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) is/are objected to.
- 8) ☐ Claim(s) are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. .
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

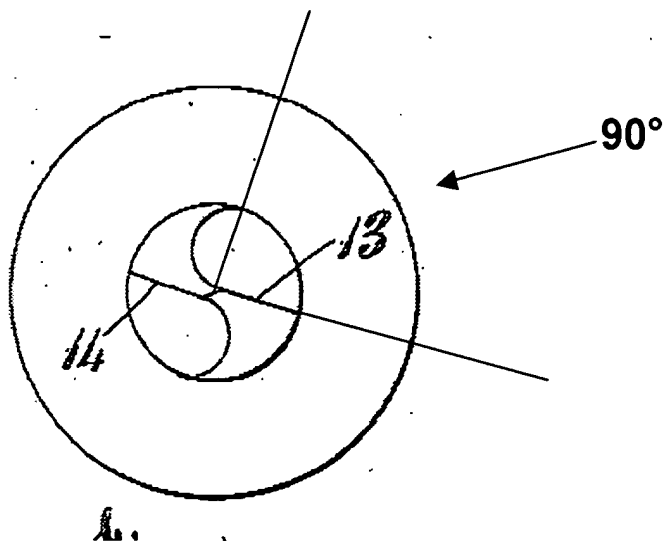
Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. <u> </u> |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u> </u> | 6) <input type="checkbox"/> Other: <u> </u> |



Claim Rejections - 35 USC § 102

Claims 10, 18, 21 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Holmes (US 1,294,268). Holmes discloses a self-tapping screw having a drive head (1) with a flange (2) at one end and a tip at an opposite end and a shank therebetween. The shank includes outwardly projecting threads (4) of a constant maximum radius from a start location to the tip. A drill section (8) is provided at the tip defined by a pair of flutes (9) formed on the tip and shank, each including a cutting edge (13, 14) and a thread tapping edge where the threaded section begins which is disposed at a different angle than the cutting edge. The thread having a uniform height to the tip wherein the "tip" is read as where the thread of uniform height begins which still leaves the shank to have a constant radius at least to the "tip". As regards claims 18 and 22, Fig. 4 of Holmes discloses a 90 degree angle as shown below.



Claim Rejections - 35 USC § 103

Claims 1-6, 11, 16, 17 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Holmes as applied to claim 10 above, and further in view of Peck (US 6,065,919). Holmes discloses a self-tapping screw as described above, but fails to teach some details of the claims. Peck also discloses a self tapping screw but in Peck: the drive head (10) is shown as hexagonal the entire shank up the tip is disclosed to a constant maximum diameter; the flute (26) is disclosed as extending only to a position intermediate the ends of the thread and finally, the flute begins on the axis of the fastener and extends parallel thereto. At the time the invention was made, it would have been obvious to incorporate the details of the Peak fastener in to the fastener of Holmes in order to improve the Holmes' fastener for improved strength and differing uses.

Claims 7, 8, 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Holmes or Holmes in view of Peck as applied to claims 1, 6, 10 and 11 above, and further in view of Eager (US 3,747,143). Although Holmes discloses the drill tip to be in the shape of a standard dill, this does not specifically include the conical surface falling off from the cutting edge. Eager disclose a self-drilling screw wherein the conical surface at a drill tip falls off from the cutting edge. At the time the invention was made, it would have been obvious for one of ordinary skill in the art to form the drill tip of Holmes as disclosed in Eager in order to improve the ability to drill by lessening the surface friction at the tip.

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Claims 9 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Holmes or Holmes as modified by Peck as applied to claims 1 and 10 above, and further in view of Eager and Hanneman (US 3,288,015). As discussed immediately above, Holmes modified by Eager discloses the drill tip falling off from the cutting edge and further disclose angles of 118° at the cutting edge (Fig. 8) and 90° at a trailing edge (Fig. 6). Hanneman disclose a self-tapping screw having a maximum angle of 110° . At the time the invention was made, it would have been obvious for one of ordinary skill in the art to limit the cutting edge angle in modified Holmes to 110° as discloses in Hanneman for more efficient cutting. Then applying the same amount of modification (there is an 8° difference between 118° and 110°) to the trailing edge leaves an angle of 82° which is "about" 83.5° as claimed. Alternatively, notice is taken that the 110° and 83.5° are a standard for a drill.

Response to Remarks

Applicant argues that the claims define over Holmes since Holmes does not meet the limitation of a uniform thread height since its thread begins as gradually increasing to reach a uniform height as shown in figures. In response, the examiner does not dispute applicant's understanding of Holmes. However, as noted in the above rejection, the examiner maintains that the reference to Holmes still reads on the claims. Indeed, the claim language does not preclude the thread gradually increasing only that the claims have a uniform height from a start location to a tip wherein the "tip" is defined as portion of the shank having a constant maximum radius. There is no requirement that

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the entire thread is of uniform height or that the constant maximum radius end at the tip. Therefore the uniform height portion of the thread disclosed in Holmes reads on the claims regardless of the fact that the thread tapers to the shank. The examiner concedes that the thread structure disclosed in the instant invention differs from that disclosed in Holmes but applicant should also consider the thread structure in the cited reference to Chen since Chen appears to show the entire thread having a uniform height.

Applicant next argues that Peck also does not have a uniform thread height. In response the examiner agrees that, as with Holmes, the thread is not disclosed to have a uniform height along the entire length but again the claims do not require the uniform height along the entire length. Furthermore, the prior art to Peck is currently not relied upon for the thread structure.

Applicant finally argues new claim 22 in that the prior art does not disclose each flute defining a 90 degree angle. In response, the examiner has applied the Holmes to teach the flutes defining the about 90 degree angle as discussed in the above rejection. Applicant suggests that Holmes cannot anticipate claim 22 since the flutes are spiral but, it is not understood how the 90 degree in the circumferential direction would preclude a spiral configuration since the spiral is a function of the axial direction. Also, in regards to claim 22, applicant again argues the uniform thread height to which no further response is believed necessary in view of the above discussion.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

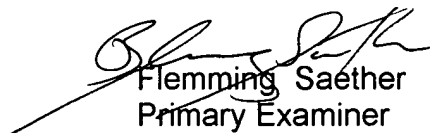
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Flemming Saether whose telephone number is 703-308-0182. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Swann can be reached on 703-306-4115. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Flemming Saether
Primary Examiner
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